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ABSTRACT

Four specific purposes were addressed in this study: (1) to identify models of classroom management and instructional management used by effective and less effective teachers; (2) to compare and contrast these models; (3) to compare and contrast a normative model of classroom management used in management training workshops with the models demonstrated by both trained and untrained teachers; and (4) to explore relationships among classroom management and student achievement variables, and academic and social participation task structure, interaction patterns, and instructional sequence patterns. The research design of the study incorporated a secondary analysis of data collected in an earlier study of the effectiveness of a program that trained secondary teachers in classroom managment. Descriptions are given of the historical context setting, sampling procedures, instrumentation, and data analysis procedures implemented in both studies. An analysis of study findings highlights the relationships between management and student achievement, the importance of planning and maintaining the management system throughout the year, and the importance of establishing and maintaining classroom rules. Implications for training and future research are discussed. References, figures, and data tables are appended. (JD)

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Research, training, and practice:

The normative model and beyond

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This paper was part of a symposium entitled, Managing classroom instruction: Analysis of teacher style, lesson construction, and training presented at the annual meeting of the American Educational Research Association, Chicago, 1985. It contains portions of Evertson, C., Weade, G., Green, J., & Crawford, J., (1985). Effective classroom management and instruction: An exploration of models. Final report NIE G-83-0063, Washington, DC: National Institute of Education. Research reported here was sponsored in part by NIE G-83-0063 and the Arkansas Department of General Education. No official endorsement by those agencies should be inferred.

Research, Training, and Practice: The Normative Model and Beyond

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Introduction

Few aspects of educational practice have created as much concern in the past years as classroom management. Discipline and behavior management have perennially out-ranked other matters in the public's opinions of its schools (Gallup, 1984). These topics head the list of concerns of school administrators. They are among the most frequently requested topics for programs of teacher inservice development. More recently attention has shifted to concerns about the quality of educational experiences students encounter in their schools, the effectiveness of the nation's public school teachers, and the need for higher levels of academic achievement as a result of schooling.

Teacher educators and researchers have been attracted to the study of classroom management. Studies in the primary grades (Brophy & Evertson, 1976; Anderson, Evertson & Brophy, 1979) and more recently in the secondary grades (Stallings, Needels & Stayrook, 1979; Evertson, Anderson, Anderson & Brophy, 1980) have shown, in general, that teachers who have organized classrooms with few behavior problems tend to be more academically effective than comparison teachers whose classrooms are less well managed.

Thus, conclusions have been drawn that effective classroom management is a necessary condition for effective teaching. At the school level, educational researchers have demonstrated an interest in the nature of effective schools and have sought to identify effective schools and to describe their characteristics. Certain features have been isolated including instructional leadership, school climate, level of expectations, emphasis on basic skills, and monitoring student progress (Bickel, 1983). MacKenzie (1983) suggests that since these major constructs derive support from a variety of sources, there is broad general agreement on the fundamental elements of effective schooling, but that there is nevertheless no clear agreement on the definitions of these constructs: "The bright light of consensus around the central elements of a construct fades little by little into gray mists of uncertainty and unanswered questions at the edge." (1983, p. 4).

Educational researchers do concur that schooling is a complex, multilevel, multifaceted process. What emerges as effective schooling cannot be adequately examined according to a checklist of specific characteristics, but rather, should be viewed as a "culture of mutually reinforcing expectations and activities" (Purkey & Smith, 1983). Studies of staff development (Little, 1981) likewise support the complex nature of effective schooling, but also point to the importance of teacher

involvement as an antecedent to school success. Teacher involvement is viewed as the key to the overall power of the school setting in influencing both staff development efforts and school success. Since the larger milieu of the school contains individual classrooms within it, research on effective schooling must ultimately come to consider behavior change at the classroom level (Tomlinson, 1981).

At least two bodies of research can serve to inform practice at the classroom level. These include research on teacher effectiveness, particularly classroom management research, and research on teaching as a linguistic process.

Research on Teacher Effectiveness - Classroom Management

Various studies of teacher effectiveness have resulted in identification of teacher variables and classroom process variables associated with student achievement outcomes (Stallings and Kaskowitz, 1974; Brophy & Evertson, 1976; Brophy, 1979; Good, 1979, 1983). While most of these were conducted at the elementary classroom level, a few studies have also addressed the teacher effectiveness question at the secondary classroom level (Evertson, Anderson, Anderson, & Brophy, 1980). In these studies, the role of effective classroom management and organization, as well as the importance of student time-on-task (Denham & Lieberman, 1980), emerged as key features of effective instruction and as necessary conditions for insuring student

academic performance.

Studies of classroom management provide evidence to suggest that, from the first day of school, advance preparation, planning, and a systematic approach are key factors in Emmer, Evertson & Anderson, 1980). Specific recommendations for teachers that can be extracted from these studies include 1.) planning rules and procedures for general classroom organization; 2.) presenting rules and procedures to students along with expectations for appropriate behavior; 3.) maintaining a systematic approach through monitoring student academic work and behavior; and 4.) providing feedback to students about academic performance and instructional participation. An underlying premise of this work has been that implementation of these recommendations would result in improved student task engagement, fewer instances of inappropriate student behavior, smoother instructional activities, and ultimately, student achievement gains.

Studies investigating the effects of training teachers in principles of effective management are rare (Evertson, Emmer, Sanford, & Clements, 1983; Emmer, Sanford, Clements & Martin, 1981) of a management training program as a viable inservice procedure. Teachers trained to implement the recommendations outlined above were found to have improved student task engagement, more instances of appropriate student behaviors, and

smoother instructional activities. In these studies, the relationship between management training and student achievement gains was not directly addressed.

For the most part, the classroom management studies have been normative in nature, e.g. seeking to identify general that distinguish effective teachers from less effective teachers. The bulk of the teacher effectiveness research, of which classroom management studies are a part, has been undertaken within a research tradition referred to by Dunkin and Biddle (1974) as process-product research. Within this tradition, attempts are made to identify characteristics of effectiveness that are associated with desired outcomes -- usually student achievement gains, and salient teacher behaviors are cast as the independent variables. The product of these research efforts consists of various sets of generalizations. Taken together, these generalizations provide a global or composite model of effective classroom management. This normative model has then served as a source of prescriptions about what teacher ought to be doing to insure their effectiveness. The substantive basis of this normative model of classroom management is presented in Figure 1.

Insert Figure 1 about here.

The normative model has been useful. It has served, first,

as a theoretical based upon which classroom management training programs have been organized. Second, the normative model has served as the source of variables for classroom observations in studies of the effectiveness of the management training programs (Evertson, et al., 1983; Emmer et. al., 1982). These researchers have noted, however, that the set of strategies extracted from the normative model were not adequate for some participants in the management training studies. In earlier management training studies, examination of within group differences revealed that some teachers are less successful than others in implementing a training model (Griffin, Hughes, & Martin, 1982). It may be that although the normative model identifies a series of variables related to effective management, guidelines or descriptions of how these variables are to be orchestrated are not sufficient. Collectively, these researchers have raised questions about the conditions that prevent some teachers from using information they have acquired in training, and further, about the nature of different philosophical or practical ideas about teaching that do not permit the adoption of different conceptions of management.

Teaching as a Linguistic Process

Cazden (1986) has identified an alternative to the process-product research tradition. This alternative, which is concerned with generating descriptions and characterizations of

selected phenomena, has recently emerged as a means of studying teaching-learning processes. Cazden refers to the alternative as a sociolinguistic tradition. Similarly, Green (1983a) cites recent advances in sociolinguistics and ethnography of communication that provide a basis for the study of teaching as a linguistic process. Use of methodologies inherent in this tradition provide a means of gaining insights into the complex processes teachers use in orchestrating the academic and social demands placed on students in classroom environments. These nature of the observation itself as inquiry (Evertson & Green, 1986), and also provide means to identify and characterize various management processes such as interaction patterns, instructional sequence patterns, and the evolution of norms and expectations for behavior. In shifting perspective from a process-product research tradition to a view of teaching as a linguistic process, it is possible to increase the power of the observational lens to a microanalytic level at which the complexities of classroom management processes can be characterized.

Recent work on teaching as linguistic process has shown that teachers with the same goals, similar groups of students, and similar content do not deliver lessons in the same way (Golden, 1983; Green, 1983a; Green and Harker, 1982; Harker, 1983; Wallat & Green, 1982). This work demonstrates that the way in which a

teacher constructs lessons, signals instructional participation, presents academic information, and uses language influences the nature of student engagement and student learning. Petitto (1982) found that the teacher's perceptions of student ability also influenced the ways in which the teacher taught the same lesson to individual groups of students within a single class. Furthermore, research in this tradition has demonstrated that contrastive models of effective and less effective teaching can be reliably identified (Erickson, 1982; Golden, 1983; Green & Harker, 1982; Green, 1983b; Harker, 1983). Teaching may be contest specific, but as Green (1977) has shown, there are patterns of similarity for both effective and ineffective teachers within lessons, even though they contrast with each other across groups.

Purpose of the study.

The study reported here was undertaken with several objectives in mind. At one level, the researchers shared an interest in exploring ways in which two virtually disparate research traditions might be examined for their compatibility in studying a singular phenomenon, e.g. classroom management. Previous studies in each of these traditions have produced two bodies of literature. Findings from each were used in the conceptualization of the present study. Moreover, it was assumed that a convergence of views from the two traditions, as evidenced

in the research design, would lead to a clearer conception of the nature of classroom management and the intricate relation between classroom management and effective instruction. One particular objective then was to design a means of contributing depth and refinement to a normative model of classroom management. This was undertaken through the identification of additional, situation-specific models of classroom management and characterizations of the ways in which teachers in specific classrooms develop management structures, establish management procedures, and manage academic content, and about what occurs as a result of such actions. These results, both those evidenced within the situation-specific models of classroom management and those recognized in terms of management variables and student achievement gains, served as the central points of focus in this study. Four specific purposes have been addressed in this study. These are:

1. to identify model(s) of classroom management and instructional management used by effective and less effective teachers;
2. to compare and contrast the models of classroom management and instructional management used by effective and less effective teachers;
3. to compare and contrast a normative model of classroom management used in management training workshops with the models demonstrated by both trained and untrained teachers; and

4. to explore relationships among classroom management and student achievement variables, and academic and social participation task structures, interaction patterns, and instructional sequence patterns.

Methodology

The research design in this study incorporated a secondary analysis of data collected in an earlier study of the effectiveness of a program of training secondary teachers in classroom management. Given the nature of the research questions in the present study, and as a result of data collection procedures implemented in the training study, this secondary analysis was possible. The sections that follow include descriptions of the historical context setting, sampling procedures, instrumentation, and data analysis procedures implemented in both studies. The earlier study will be referred to as "the training study" where necessary in order to distinguish it from the present secondary analysis study.

The State's Context and Historical Perspective

The state of Arkansas has recognized the need for research in informing educational practice. This recognition led the state to design a program for the improvement of practice that would have an impact on local school districts' policies related to the improvement of their students' academic achievement. A review of literature on effective implementation of change in

schools and an assessment of needs within the state led to adoption of a model for a program on effective teaching. This model, drawn from work by Madeline Hunter, is depicted in Figure 2.

Insert Figure 2 about here.

Prior to 1982, work had begun within the state on the instructional skills component of the model. Training was conducted in five areas which are complementary to areas defined by classroom management. These five areas were 1.) selecting lesson objectives at the appropriate level of difficulty; 2.) teaching to these objectives; 3.) maintaining the focus of the learner; 4.) using the principles of learning: motivation, reinforcement, retention, and transfer; and 5.) monitoring and adjusting instruction.

Since its inception in 1979, the instructional skills component has been disseminated to over 10,000 of the state's teachers, 70% of the school principals, and at least 61% of the LEA's have completed the training cycle. In addition, two studies assessing the relationship of teachers' training in instructional skills to their students' performance on achievement tests (Dildy, 1982; Lane, 1982) suggest that the training has had a positive effect on student performance.

In view of the relative success of the instructional skills

training at a state-wide level, administrators began to explore a second area of their model, classroom management. At that point, the principal investigator in this study became a resident of the state and participated in a workshop on classroom management research and training sponsored by Southwest Educational Development Laboratory (SEDL). Members of the state department's staff initiated a series of dialogues with her about the nature of effective classroom management. During these dialogues, the findings and procedures used in management training studies conducted in Texas were explored and evaluated. A decision was made to extend and replicate the Texas studies in Arkansas.

Six studies assessing the effects of training in classroom management were completed in Arkansas in order to determine the appropriate elements for a state-wide classroom management model. Findings from these studies, which generally confirmed the findings from the Texas studies, indicated that for the elementary teacher sample ($N = 70$), trained teachers rated significantly higher ($p < .05$) than untrained teachers in the following ways: they were clearer in describing objectives and lesson content; they had more efficient and appropriate routines; and they were more consistent in managing student behavior. In addition, they had less student off-task behavior and more task-oriented classroom focus. For secondary teachers ($N = 16$), the trained teachers rated significantly higher ($p < .05$) than the

untrained teachers in similar ways. In addition, the trained secondary teachers also paced lessons more appropriately, had more efficient routines for lesson management, monitored and controlled student behavior more appropriately, and had more student on-task behavior as well as less student off-task behavior.

In reviewing the findings of the six Arkansas studies, members of the the state's advisory committees and the principal investigator became concerned about those teachers for who training was less effective than for others. This concern led to conception of the present study as part of the on-going program of research in Arkansas.

The Local School Setting

One school district that participated in the secondary level classroom management training just described is located in the far southwest corner of the state of Arkansas. The district has two integrated junior high schools, both of which were used as data collection sites. The student population in the district is composed of 60% white, 33% black, and 7% Mexican-American students.

The data from the training study in this district is the focus for the quantitative and qualitative to be reported in this and the related set of papers by Green and Rasinski, and by Weade in this symposium. To summarize, six state-supported validation studies were conducted in several districts in Arkansas in 1982.

From these six studies, data from one school district was used as the basis for further exploration regarding teachers' use and interpretation of their training in classroom management. This district was selected because of several reasons. 1.) classroom observers provided audiotapes of classroom lessons which could lend themselves to further analyses, 2.) the school was eager to cooperate and wanted the information to improve their instructional program, and 3.) very little indepth investigation had been done at the secondary level in classroom management practices.

The following is a description of the data collection procedures, instrumentation, and findings from the training study conducted in this school district.

Data Base

Sample.

The sample of secondary teachers involved in the training study numbered 16. These teachers were volunteers, eight of whom served as the trained group, and eight, the control group. The teachers, who were first blocked into matched pairs on characteristics of teaching experience and grade level, were randomly assigned to experimental and control groups. The trained group participated in a one day program of classroom management training prior to the opening of school, for which they were provided a stipend. Teachers also participated in

follow-up workshop(s) approximately 2 months after school started. The control group was told the purpose of the study but these teachers did not take part in the management training workshop(s). In the year prior to the classroom management training, all teachers (both experimental and control group teachers) had participated in a series of workshops focused on instructional skills training.

The experimental and control groups were each composed of four English and four math teachers. The range of grade levels taught was 7th through 9th. All teachers were female with the exception of one male math teacher. Four of the 16 teachers were black; 12 were white.

Instrumentation.

Since the design of the training study included observing all teachers to determine the extent to which teacher behavior and student task engagement were or were not affected by training, observers had to be trained to carry out this function. One initial requirement for participation in the observer training was certification as an observer trained in the procedures used in the state's instructional skills training program. Qualifying observers were given manuals containing descriptions of rating scales and sample scales. They then participated in a full day of intensified training using both written scripts and videotapes of classroom situations.

Reliability checks taken at the end of the training period indicated that all observers had reached 83-90% agreement in use of the observational devices.

Data collected as part of the training study were generated through use of a variety of observational measures. The classroom observations described in the sections that follow were conducted according to a schedule of at least six observations over the period of the school year in each of the 16 classrooms.

Narrative records. These records consisted of descriptive information about classroom activities and the behaviors of both teachers and students. During each observation observers recorded notes on Narrative Record Forms. After the observation, the observer used notes to dictate more complete information onto audiotape. Observers were asked to preserve an accurate sequence of activities, to note teacher and student behaviors, and to record in writing as much of the classroom dialogue as possible. Training procedures had emphasized the dimensions relevant to classroom management skills while as well as the overall organization of the observation period. Observers also recorded periodic time specifications, thus permitting subsequent estimates of the length of activities.

Classroom rating scales. After each observation a set of classroom rating scales were used by the observer to assess teacher and student behavior on several variables. These

ratings, along with their 5 scale points were defined in the manuals given to the observers during training. The variables included various aspects of lesson management, monitoring student behavior, class climate, handling of student misbehavior, etc. They also included ratings on the degree and frequency of student disruptive or inappropriate behavior.

Student Engagement Rates. Beginning at a randomly determined time during the first 10 minutes of the observation period, observers stopped and categorized each student in the room in one of the following three categories of engagement:

1. Definitely on-task: Student is obviously engaged in the task at hand. (The 'task' is defined by the teacher at that time.)
2. Probably on-task: Student appears to be engaged, but there is some question in the observer's mind as to whether attention is wandering or not.
3. Off-task: Student is not engaged in what s/he is supposed to be doing.

A percentage score for each category was obtained by dividing the number of students in each category by the total number of students present. Student engagement rates were recorded on the narrative record form, thereby permitting subsequent comparisons with the class activities during these times.

Summary ratings of the teacher. When all November observations had been completed, observers completed a series of

40 summary ratings on any teacher whose classroom they had observed at least twice. These summary ratings were designed to assess several variables which could only be rated only after several visits to a class, i.e. overall amount of 'dead time', shifts in student attention from the first of school to later in the school year, smoothness of transitions between activities, teachers' characteristic methods of giving feedback to students, etc. In many instances two sets of summary ratings were available for each teacher, since two observers had seen each classroom at least twice. In these cases, observers had been asked to do their ratings independently and not to discuss the ratings. Observer agreement averaged 80-90% on these summary ratings.

Audiotape recordings. In addition to the Narrative Record Forms and Classroom Ratings Scales, observers had collected verbatim audiotape recordings during each classroom observation.

Achievement test scores. Pre and posttest scores on achievement tests in language arts, reading, and math were available for all experimental and control group teachers. Ninth grade students had completed national SRA achievement tests in reading and language arts, and the State Assessment Test of Basic Skills (SATBS). Students in the 7th and 8th grade classrooms had completed district-wide criterion-referenced tests in both language arts and math.

In summary, for each of the sixteen teachers, the following data sets were available for each of six observations: 1. narrative notes with periodic time designations and class activity descriptions for 45-minute observations; 2. classroom rating scales; 3. three or more student engagement ratings for each class period observation; 4. summary ratings taken at the end of the six observations per teacher; and 5. verbatim audiotapes per observation. In addition pre- and post-achievement test scores in English and math were available from the school district.

This data set provided the opportunity for comprehensive, in-depth examination and post hoc analyses of the quality of instruction in any of the 16 classrooms. In addition to over 50 hours of verbatim tapes of classroom dialogue, the researchers also had access to follow-up interviews with teachers and district administrators as well curriculum and/or textbook materials used in any given lesson.

Analyses of these data showed that the trained group was rated significantly higher on observational measures of classroom management effectiveness as Table 1 indicates. Students in the trained teachers classrooms also scored significantly higher than the control group on end-of-year achievement.

Insert Table 1 about here.

Sampling for Secondary Data Analyses

A sub-sample of four teachers was selected for the secondary analysis procedures adopted in the present study. As indicated in Table 1, all were English teachers, two from the experimental group and two from the control group. A central objective in the process of selecting this sub-sample was to achieve representativeness on the dimensions of classroom management effectiveness and instructional effectiveness. Rank ordering of all teachers on these dimensions was accomplished through comparisons possible within the data bank described above. One additional indicator that prompted the selection of Teacher A was an external validation of effectiveness. Teacher A had been named runner-up in the state's teacher of the year award, and follow-up interviews confirmed her reputation within the school and the district as an excellent teacher.

Insert Figure 3 about here.

As examination of Figure 3 reveals, teachers' relative positions on the rank order listings varied across the management and instructional effectiveness dimensions. For instance, while Teacher A clearly out-ranked all other teachers in the entire training study sample on the management dimensions. Achievement

tests for her ninth grade class were not comparable to those used in the lower grade levels (7th and 8th grades). Similarly, but in an opposite direction, although student achievement data for Teacher C indicated good achievement, measures of management and student engagement placed her lower on the scale. Table 6 shows the teachers' rankings on residual mean achievement. Note that 9th grade teachers were not included. This was because a different metric was used to estimate achievement in their classes.

This phenomenon made placement of teachers within the management/achievement typology, although not impossible, somewhat problematic. Moreover, early explorations of audiotape transcriptions over a sample of lessons for all teachers suggested to the researchers that a closer examination of the achievement data was warranted. Early explorations of audio-tape transcriptions were conducted by two of the researchers who, at that time, had no awareness of teacher rankings on the student achievement data. These early explorations led to formation of expectations about the quality of instruction in the various classrooms. Teacher rankings on the management variables were congruent with these expectations; rankings on the achievement dimension were surprising. In light of the researchers' specific interests in relationships between classroom management and instructional effectiveness, identification of this anomaly in the data is significant. It goes beyond satisfaction of the need

to classify teachers within a typology for sampling purposes. A fuller elaboration on this matter is presented (later in this report). Details of the exploration of the achievement data are provided below.

Student Achievement

The achievement test data available for secondary analysis procedures varied according to student grade level. District administration of the criterion-referenced achievement test did not extend to ninth grade students and seventh and eighth grade students did not take the national SRA reading and language arts tests, or a state test of basic skills. This precluded direct comparisons between ninth grade teachers and other teachers on the achievement dimension. Nonetheless, as indicated in Table 3, variance among the 7th and 8th grade English classes was significantly greater than within-class variance ($F = 7.27$, 5, 104, $p < .0001$). Three of these teachers were selected as members of the secondary analysis sample. In the case of the ninth grade teachers, analysis of variance on mean regression residuals did not detect significant between class differences. Thus, rank ordering of ninth grade teachers carried no meaning due to large within class differences.

Exploration of within class variability was conducted through arbitrary designation of within-class achievement level groupings. That is, students in each class were grouped

according to pre-test scores, and then posttest scores, as high (71-100), middle (31-70), or low (1-30). Comparisons were then made to determine the extent of student movement from one group to another between the two tests. As shown in Table 3, Teacher A's students demonstrated considerable group movement between pre and posttesting. Of those students starting in the lower sector of the class, 67% were achieving at the middle group level at posttest time. Of the middle group, 37.5% moved to the high group. None of those in the high or middle group dropped in group status.

Comparison of the group movement phenomenon across classrooms revealed contrasting patterns. As examination of Tables 2-5 shows, group movement was both positive and considerable for Teacher A. For Teacher B, movement was also positive (37.5% low to middle, 25% middle to high, no drop from any level). For Teacher C, students demonstrated no group movement, and for Teacher D, one student dropped from high to middle group, otherwise there was no group movement, although students lost points within groups.

Insert Tables 2-5 about here.

Ranking teachers according to this alternative method of analyzing student achievement gains produced a different order of

ranks than those derived through comparison of mean regression residuals. Table 6 provides a comparison of the rank orders derived according to each of the two methods.

Insert Table 6 about here.

On the basis of these comparisons, it can be suggested that management and achievement do not, necessarily, go hand in hand. It appears that for these teachers effective classroom management may have operated as a necessary condition for effecting high achievement gains, but effective management alone was not sufficient. In the case of Teacher C, classroom management scores, though not the highest of all teachers considered, could nonetheless be classified in the higher category. Achievement scores, one the other hand, were not sufficiently high in comparison, and Teacher C was categorized in the low cell on measures of student achievement. As will be shown in the following sections of this report, matters of instructional management, that is, management of the content of instruction can be shown to be corollary to differences in achievement gains for these teachers. Classroom management, is necessary, but not sufficient for effecting high student achievement gains. After the contrasts are presented, comparison of profiles will be presented in order to show features of instructional management

that vary between the teachers.

Data Analysis

Classroom management is a phenomenon that can be examined at varying levels of generality. The methods and variables described to this point can be characterized as existing at a broad level of generality. Although considerable detail has been entertained within the variety of quantitative observational procedures implemented, the vantage point used in observation is one of distance. Moreover, it is a normative model that gave initial rise to conception of the management training program and to the identification of the variables to be observed at its root, a normative model is a set of generalizations derived from multiple observations across multiple settings -- across an entire history of research on effective teaching and classroom management. These generalizations exist as a set of aggregate impressions that, of necessity, camouflage idiosyncratic features of the phenomenon. The microanalytic approach to be described in what follows was adopted as a means of increasing the power of the lens through which classroom management could be observed. The intent in conducting the microanalysis was to unveil the particular ways in which individual teachers in a particular classroom develop management structures, establish management procedures, and construct, with students, the processes that unfold in the course of the lesson and activities.

The microanalytic approach is grounded in theoretical constructs emerging from fields of sociolinguistics, ethnography of communication, conversational analysis, discourse processes and educational research on teaching-learning processes. An overview of selected constructs is provided in Figure 4. Together these constructs form the basis for the conceptualization of teaching as a linguistic process and a focus for research concerned with how teaching and learning occur through social interactions in educational settings (Cazden, 1986; Green, 1983). In effect, this approach seeks to discover how communication between and among teacher and students leads to construction of social and academic meanings and activities. Concern is directed toward the ways in which everyday interactions serve to support or constrain acquisition of academic and social knowledge, and knowledge of procedures for participating in on-going educational events.

Insert Figure 4 about here.

The Sample

For each of the four English teachers that comprised the sub-sample for microanalysis, one day's lesson was selected for in-depth microanalysis from the pool of audio recordings available. This in-depth analysis consisted of construction of

detailed maps of lesson structure in which patterns of interaction could be identified, compared and contrasted within lesson. Additionally, given the pool of lesson recordings available for each teacher, comparisons could be conducted across lessons, as a means of testing consistency within teacher and within classroom across days. In mid-November, all teachers in the larger sample had been observed on two consecutive days. Thus, by selecting a mid-November lesson, comparisons were possible across the consecutive day as well as across the sample of observed days through out the year, which ranged from a day during the first week of school to a day in late May.

Procedure: Mapping Instructional Conversations

Following the theoretical frame just described and analytic procedures developed by Green (1977) and Green and Wallat (1981), a detailed "map" of lesson structure was constructed for each of the four English teachers selected within the sub-sample. Adaptations in technical and procedural aspects of the mapping process have been made where necessary as determined by the character of the observational records selected for analysis (audio recordings as opposed to videotapes used in earlier studies), and where expedient to reflect a primary focus on the particular questions under study. The analytic steps used in constructing these maps are outlined in Figure 5. A description of categories and representational conventions used in the

mapping process is contained in Figure 6: a sample segment of one completed map is provided in Figure 7.

Insert Figures 5, 6, & 7 about here.

At the outset, the mapping process requires use of an audiotape transcription of the classroom conversation. The recording itself does not exist as data; it is nothing more than undifferentiated raw footage. The tape recorder does provide, however, a technological means of observing and preserving the unfolding events in the audibly, in the recorded lessons was "frozen" for retrospective exploration and analysis.

The actual mapping of an instructional conversation begins with construction of a verbatim typescript of all teacher and student talk. This typescript parallels the audio in that the time-ordered sequence of talk, interactions, and events are maintained. Moreover, it provides a form of visual complement to the audio record. As the researcher 'observes', e.g. listens to, the tape recording, the typescript can be simultaneously observed visually. In addition, as a visual extension of the raw footage, the typescript provides a physical base upon which notations can be made, and later retrieved in the process of data analysis. Nonetheless, at no point throughout the process is the typescript treated as a substitute for the raw footage. As a separate

entity, the typescript is incomplete in that paralinguistic cues, e.g. pitch, stress, intonation, rhythm, pause structure, etc., cannot be adequately depicted. These cues are important features of the dialogue in that they contribute to construction of meaning in the messages delivered and received by the conversants; they can be adequately preserved only on the audio -tape*. This matter is fundamental in terms of its implications for understanding the mapping process and conducting the data analysis: the researcher never 'abandons' the original audio transcription -- the map is only an extension of the original. Transcription conventions including notational systems for representing paralinguistic cues have been devised and are available (c.f.Tannen, D. (1984) Conversational style: Analyzing talk among friends).

As indicated in Figures 5 and 6 and illustrated in Figure 7, an initial phase within the analytic process consists of segmentation of teacher talk and student talk into message units. The message unit is the most elemental within a four-level hierarchy: message units, interaction units, instructional sequence units, and lesson phases. At theoretical frame and according to co-verbal prosodic cues within the functions within the social context rather than to grammatical or syntactical form. Following designation of the unit structure, the mapping process continues with segmentation of the transcription into

selected categories. In these maps, a category of potentially divergent messages/interactions was selected in light of the concern with classroom management phenomena. Additionally, an instructional theme category was selected for the purpose of identifying the nature of instructional sequence units. Themes are also taking on a hierarchical arrangement in that any series of "tied" instructional sequence units is identified by topic. Designation of lesson phases, the largest unit in the system, is based on changes in the academic and/or social participation demands placed on students. Throughout the mapping process, bases of inference are recorded where necessary and questions and issues for subsequent triangulation are noted.

Procedures: A Cycle of Inquiry

The approach taken in the qualitative analyses conducted in this study is a type case analysis. The type case approach ultimately yields a type case model, which is a form of inventory consisting of a variety of recurrent patterns. These patterns include patterns of interaction between teacher and students, between students and other students, between students and materials, and among students, teacher, and materials.

Patterns are identified in terms of consistency of interaction across time, setting, and content or topic. Considering the context of the lesson as bounded by its beginning and its end, it is possible to identify what is normal or

ordinary. In the process, variations from the ordinary are foregrounded. Comparison and contrast then permits identification of antecedent factors that contribute to the unfolding variation and to the establishment of the particular context. This identification of factors frequently serves as the grounds for identification of additional patterns, patterns within patterns, or patterns across patterns. Questions emerge to guide further exploration and emergent hypotheses can be constructed and tested. Thus the process is cyclic, moving back and forth between the testing of hypotheses and generation of new and emergent questions.

Discussion

The focus of this paper was to compare and contrast the "models" of more effective and less effective classroom teachers with the normative model of classroom management developed through the support of the state department of education and the school district and used in the training sessions. Observers focused on the observational variables shown in Table 1 to assess teachers' use or non-use of the elements in the training model. Qualitative analyses of classroom lessons were performed to obtain an in depth look at the ways in which teachers delivered the content and how aspects of classroom management were played

out moment-to-moment in daily lessons.

The following points become clear:

1. Relationships between management and student achievement:

Good management is a necessary, but not sufficient condition for student achievement to occur. If we examine the ways in which teachers allocate classroom resources and allow for students to demonstrate their knowledge, we find that in the poorly managed classrooms, very few opportunities to participate or demonstrate knowledge are available to students. This is discussed in more detail in the Green & Rasinski (1985) and Weade (1985) papers in this symposium. Put another way, as the number of shifts in social demand increased across teachers (e.g. who can talk, when, where, about what and for what purposes), the relative proportion of changes in academic expectations decreased. Effective teachers managed to orchestrate a relative balance between social and academic tasks in terms of the demands placed on students to interpret changes in their rights and obligations for participation. Effective teachers provided signals to students about multiple aspects and features of the tasks at hand, and provided verbal cues about how students could understand, reason, and accomplish the task. Less effective teachers provided fewer verbal cues, introduced conflicting cues, and failed to signal the relevant cues inherent in materials or the specific tasks at hand. This suggests that instruction is

not content-free.

2. Methodological considerations from use of the audiotapes as transcripts: Three important aspects of the state-developed model were the focus on 1.) planning before the year began, 2.) presenting or implementing the plan, and 3.) maintaining the management system throughout the year. The nature of any classroom observational procedure makes it impossible to directly observe teachers' planning before the year starts, although it is possible to infer that certain actions were planned for. Similarly use of space, student seating, traffic patterns, visibility etc. are not directly addressed through the audio tape transcriptions. Furthermore, presenting the rules and procedures and the academic content are only partially addressed.

3. Compatibilty of form vs. function:

Evidence that rules and procedures are in place comes indirectly. We can infer that, if a rule is signalled by the teacher, it is not 'in place' and there is at least some problem or potential problem with compliance. However, if a rule is not signalled, we cannot determine whether that is because it is in place or whether it is irrelevant to the particular situation at hand. Additionally, the teachers might have 'planned' for the rule to be nonverbally signalled (flicking the lights, fingers to the lips for silence, also the arrangement of desks signals rules about student seating). Such are the limits of audiotape

transcripts for certain questions about how teachers operationalize or fail to operationalize certain classroom practices.

The most illuminating portion of the qualitative analyses in adding insights is in how teachers conduct classroom lessons. These are particularly relevant for the 'maintaining' part of the normative model. In cases where there were numerous potential divergences from the theme of the lesson, the system either breaks down or is never put in place. One striking feature of the analysis of class lessons is that goal directed activity in lesson presentation appears to match goal directed activity in maintaining the social norms in the classroom.

Interviews with the teachers and assistant superintendent for instruction indicate that the model is still in place after three years. Follow up interviews with the teachers in their classrooms revealed the existence of charts listing 5 or 6 classroom rules. Evidence suggests that this is an outgrowth of the district's emphasis on training in classroom management. Additionally, there is a school district policy that each teacher in each classroom will have rules. There is evidence that the degree to which these rules are part of the social norms varies a great deal.

Implications for training:

1. Time of training has effect on the understanding and use of

the model. The control group in this case was trained after data collection in the spring of the year. Evidence suggests that the most appropriate time is at the beginning of the school year in the fall. This has several advantages. One of these is that the purpose of the training is clearer and addresses immediate concerns. Another advantage is that the entire teaching staff can begin new routines and start ups with a shared purpose.

2. Training by building allows a support group to aid in acceptance of the principles and framework. Even more important, the group can begin to develop a shared language with which to make tacit understandings of their own practice more explicit.

3. Training must remain relevant to the actual tasks teachers must perform. This underscores the importance of 'beginning at the beginning'. If the content of training is the establishment of rules, norms, expectations for how students accomplish the tasks of schooling, training should be timed to reduce the lead time between the information presented in the workshops and the actual time it must be put into use.

Implications for future research:

1. Examinations of classroom processes should include matching, not only on management effectiveness but, on lesson content, goals, phases of lessons, etc.

2. Observational mechanisms should capture as much of the nonverbal cuing as possible, and context as possible. These

allow for more sensitive as well as more accurate interpretations of classroom events.

3. Focus should also be on student behavior in concert with teacher behavior instead of focusing only on teacher behavior.

4. Perspectives of participants should also be included in the interpretations of on going events.

This report summarizes the results of the merging of two alternate research traditions. This merger provides a distinction between learning "that" certain practices make a difference in student achievement and learning "how" these practices function in classrooms and affect what is learned by students.

References

Anderson, L., Evertson, C., & Brophy, J. (1979). An experimental study of effective teaching in first-grade reading groups. Elementary School Journal, 79, 193-223.

Bickel, W. (1983). Effective schools: Knowledge, dissemination, inquiry. Educational Researcher, 12, 3-5.

Brophy, J. (1979). Teacher behavior and its effects. Journal of Educational Psychology, 71, 733-750.

Brophy, J. & Evertson, C. (1976). Learning from teaching: A developmental perspective. Boston: Allyn & Bacon.

Cazden, C. (1986). Classroom discourse. In M. Wittrock (Ed.) Handbook of research on teaching, 3rd. ed., New York: Macmillan.

Denham, C. & Lieberman, A. (eds.) (1980). Time to learn. Washington, D.C.: National Institute of Education.

Dildy, P. (1982). Improving student achievement by appropriate teacher in-service training: Utilizing the program for effective teaching (PET). Education, 103, 132-38.

Dunkin, M. & Biddle, B. (1974). The study of teaching. New York: Holt, Rinehart & Winston.

Emmer, E., Evertson, C., & Anderson, L. (1980). Effective classroom management at the beginning of the school year. Elementary School Journal, 80, 219-231.

Emmer, E., Sanford, J., Clements, B., & Martin, J. (1981). The design of the Junior High Management Improvement Study. Research & Development Center for Teacher Education, Rept. #6150, Austin, Texas.

Erickson, F. (1982). Classroom discourse as improvisation: Relationships between academic task structure and social participation structure in lessons. In L. Cherry Wilkinson (Ed.), Communicating in Classrooms, New York: Academic Press.

Evertson, C., Anderson, C., Anderson, L., & Brophy, J. (1980). Relationships between classroom behaviors and student outcomes in junior high mathematics and English classes. American Educational Research Journal, 17, 43-60.

Evertson, C., Emmer, E., Sanford, J., & Clements, B. (1983). Improving classroom management: An experiment in elementary classrooms. Elementary School Journal, 84, 173-188.

Evertson, C. & Green, J. (1986). Observation as inquiry and method. In M. Wittrock (ed.) Handbook of research on teaching, 3rd ed., New York: Macmillan.

Gallup (1984). The 16th annual Gallup poll of the public's attitudes

toward the public schools. Phi Delta Kappan, 64 (1), 27-28.

Calder, J. (1982). Structuring and restructuring tests. Paper presented at the annual meeting of the American Educational Research Association, Montreal.

Good, T. (1979). Teacher effectiveness in the elementary school. Journal of Teacher Education, 30, 52-64.

Good, T. (1983). Research on classroom teaching. In L. Shulman & G. Sykes, (Eds.) Handbook of Teaching and Policy. New York: Longman.

Green, J. (1977). Pedagogical style differences as related to comprehension of performance: Grades One through Three. Unpublished doctoral dissertation, University of California, Berkeley.

Green J. (1983a). Research on teaching as a linguistic process: A state of the art. Review of Research in Education, Vol. 10, Washington, D. C.: American Educational Research Association.

Green, J. (1983b). The construction of lessons and their relationship to student performance within lessons. Paper presented at the annual meeting of the American Educational Research Association, Montreal.

Green, J. & Harker, J. (1982). Gaining access to learning: Conversational, social, and cognitive demands of group participation. In L. Cherry Wilkinson, (Ed.), Communicating in Classrooms, New York: Academic Press.

Green, J. & Wallat, C. (1981). Mapping instructional conversations: A sociolinguistic ethnography. In J. Green & C. Wallat (Eds.), Ethnography and Language in Educational Settings , Norwood, New Jersey: Ablex.

Griffin, G., Hughes, R., & Martin, J. (1982). Knowledge, training, and classroom management. Paper presented at the annual meeting of the American Educational Research Association, New York.

Harker, J. (1983). Relationship between the evolving oral discourse and the discourse of the story. Paper presented at the annual meeting of the American Educational Research Association, Montreal.

Lane, W. (1982). Evaluation of the Magazine (Arkansas) Basic Skills Consortium Project, 1981-82. USOE Report: Basic Skills Improvement Project.

Little, J. (1981). School success and staff development: The role of staff development in urban desegregated schools. Final report, Center for Action Research, Boulder, CO.

MacKenzie, D. (1982). Research for school improvement: An appraisal of some recent trends. Educational Researcher 12, 5-17.

Petitto, A. (1982). Culturally motivated goals and calculating devices: Learning arithmetic in elementary school. Paper presented at the annual meeting of the American Educational Research Association, New York.

Purkey, W. & Smith, M. (1982). Too soon to cheer? A synthesis of research on effective schools. Educational Leadership 40 , 64-69.

BEST COPY AVAILABLE

Stallings, J. (1980). Allocated academic learning time revisited, or beyond time on task. Educational Researcher 9 , 11-16.

Stallings, J., Needels, M., & Stayrook, N. (1979). The teaching of basic reading skills in secondary schools, Phase II & Phase III. SRI International, Menlo Park, California.

Stallings, J. & Kaskowitz, D. (1972-73) Follow through classroom observation evaluation. Office of Education Contract OEC-0-8522480-4633(100).

Tannen, D. (1984). Conversational style: Analyzing talk among friends.

Tomlinson, T. (1981). Effective schools: Mirror or mirage. Today's Education , April-May, 48-50.

Wallat, C. & Green, J. (1982). Construction of social norms. In K. Borman (Ed.) Social life of children in a changed society, Hillsdale, NJ: Lawrence Erlbaum Associates.

Figure 1

A Model for Training Teachers in Classroom Management[a]

Classroom management is a component of the "Total Teaching Act".

The "Total Teaching Act" is based on knowledge and understanding of human growth and development and includes the following components:

1. Classroom management skills.
2. Human relations skills.
3. Planning skills.
4. Selection and use of appropriate materials.
5. Knowledge of content.
6. Instructional skills.

Effective classroom managers demonstrate certain skills.

1. Planning rules and procedures thoroughly and in detail.
2. Teaching these to students.
3. Monitoring student work and behavior.
4. Stopping inappropriate behavior before it becomes disruptive.
5. Maximizing student task engagement and success.
6. Communicating clearly.

Effective classroom management requires planning before school starts.

1. Readying the classroom (planning use of space).
2. Developing rules for general behavior.
3. Developing rules and procedures for specific areas:
   a. Student use of classroom space and facilities.
   b. Student use of out-of-class areas.
   c. Student participation during whole class activities.
   d. Student participation in daily routines.
   e. Student participation during small group activities.
4. Deciding on incentives/consequences for appropriate/inappropriate behavior.
5. Planning activities for the first day of school.

continues)

(continued)

Effective classroom management requires presenting (implementing) at the beginning of school.

1. Teaching the rules and procedures.
   a. Using explanation.
   b. Using rehearsal.
   c. Using feedback.
2. Teaching academic content.
3. Communicating directions and concepts clearly.

Effective classroom management requires maintaining the management system throughout the year.

1. Monitoring for behavioral and academic compliance.
2. Acknowledging appropriate behavior.
3. Stopping inappropriate behavior.
4. Using consequences/incentives consistently.
5. Adjusting instruction for individual students/groups.
6. Keeping students accountable for work.
7. Anticipating special problems.

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[a] As used in organization of a program of training teachers in classroom management skills, this model is based on an assumption of prior knowledge of complementary instructional skills including: (a) selecting lesson objectives at the appropriate level of difficulty; (b) teaching to these objectives; (c) maintaining the focus of the learner; (d) using the principles of learning, i.e. motivation, reinforcement, retention, and transfer; and (e) monitoring and adjusting instruction.

TOTAL TEACHING ACT

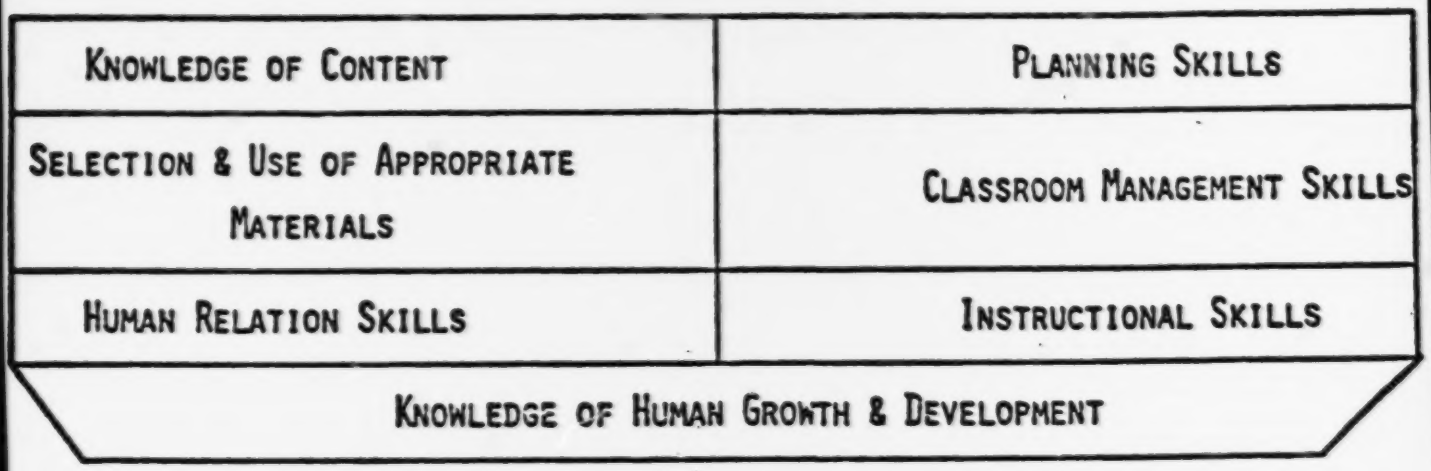


Figure 2 The "Total Teaching Act": A model adopted from Madeline Hunter's work, the basis for the Arkansas Program for Effective Teaching (PET).

Table 1. Means for Component Ratings for Secondary Classrooms: Experimental and Control Groups X Time of Workshop

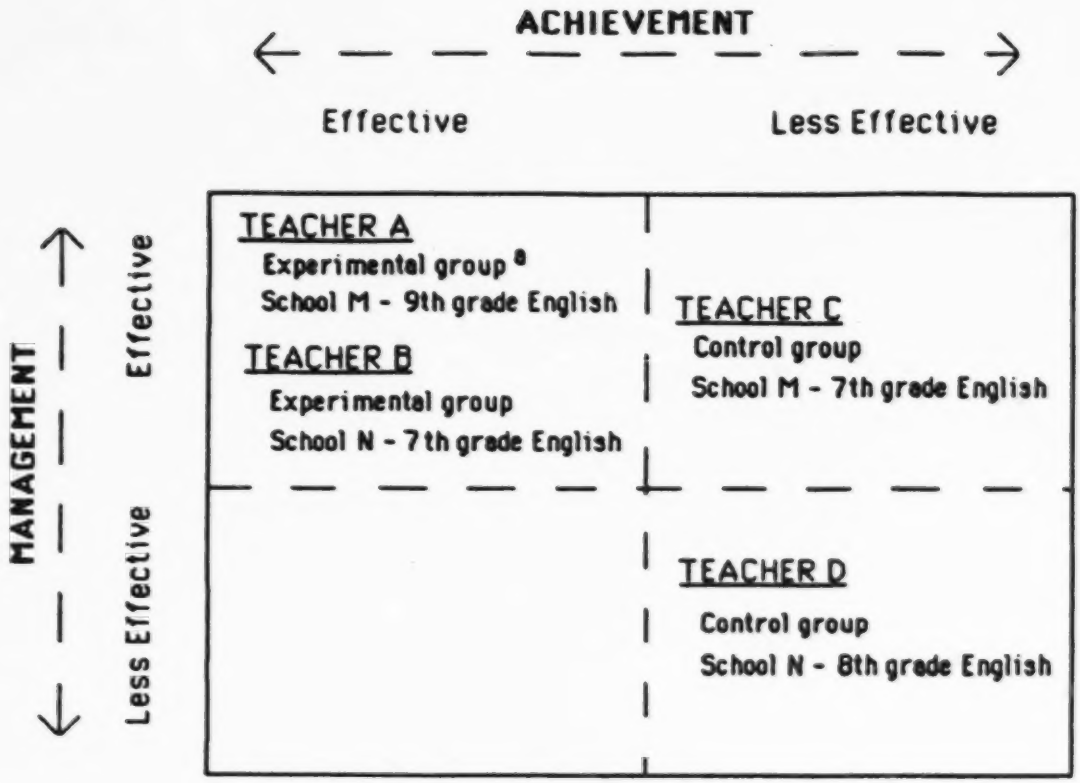
	Treatment		Time		Treat. X Time
	Exp.	Con.	Post Treat. Time 1	Post Treat. Time 2	
	n=8	n=8	n=16	n=16	
Instructional Management					
1. Describes objectives clearly	4.95	4.27 **	4.56	4.65	
2. Variety of materials	1.23	1.08	1.31	1.00 *	
3. Materials are ready	4.92	4.65	4.76	4.81	
4. Clear directions for assignments	4.66	4.15 **	4.35	4.46 *	
5. Waits for attention	4.42	3.87 **	4.30	4.00	
6. Encourages analysis	4.34	3.46 *	3.65	4.15 ***	
7. Assign. for different students	1.38	1.17	1.15	1.40	
8. Appropriate pacing of the lesson	4.15	3.41 *	3.73	3.84	
9. Clear explanations	4.45	3.85 *	4.06	4.25	
10. Monitors student understanding	4.46	3.92 *	4.10	4.28	
11. Consistently enforces work standards	4.27	3.41 **	3.68	4.00	
Room Arrangement					
12. Suitable traffic patterns	4.75	4.73	4.98	4.50 ***	
13. Good visibility	4.76	4.81	4.83	4.75 *	
Rules and Procedures					
14. Efficient routines	4.58	4.42	4.47	4.53	
15. Appropriate general procedures	4.57	4.15 *	4.35	4.37	
16. Suitable routines for assigning and checking work	4.53	4.20 *	4.23	4.50 *	

Meeting Student Concerns					
17. High degree of student success	4.36	3.85 ***	4.12	4.09	
18. Level of student aggressive beh.	1.03	1.40 **	1.19	1.25	p=.06
19. Attention spans considered	3.87	3.28	3.46	3.68	
20. Activities related to students' interests	3.82	3.11	3.03	3.90 ***	
Managing Student Behavior					
21. Restrictions on student movement	4.07	2.96 ***	3.48	3.56	
22. Rewards appropriate performance	3.93	3.08	3.67	3.34	
23. Signals correct behavior	3.27	2.08 ***	2.98	2.37 **	
24. Consistency in managing student behavior	4.06	2.97 **	3.60	3.43	
25. Effective monitoring	4.05	3.33 *	3.70	3.68	
Student Misbehavior					
26. Amount of disruptive behavior	1.16	1.41	1.33	1.25	
27. Amount of inappropriate behavior	1.95	2.76 **	2.40	2.31	
28. Stops inappropriate quickly	3.10	3.23	3.61	2.71 **	
29. Ignores inappropriate behavior	2.51	4.10 **	3.37	3.25	
Classroom Climate					
30. Conveys value of the curriculum	4.48	3.60 **	4.03	4.06	
31. Task-oriented focus	4.53	3.85 ***	4.26	4.12	
32. Relaxed, pleasant atmosphere	4.52	3.82 **	4.16	4.18	

Miscellaneous				
33. Listening skills	4.08	3.30	3.72	3.65
34. Avoidance behavior during seatwork	1.28	1.87 ***	1.69	1.46
35. Participation in class discussions	3.61	3.14	3.38	3.37
% of Students Engaged				
36. % of Students Off-task	7.09	14.79 **	9.32	12.56
37. % of Students Probably On-task	4.96	9.68	5.21	9.44
38. % of Students On-task	87.95	75.53 **	85.47	78.00 **

(Means for the component ratings are based on 5-point scales. 1 = low occurrence or least characteristic and 5 = high occurrence or most characteristic.)

*** = p= $\leq$ .01
** = p= $\leq$ .05
* = p= $\leq$ .10



a Experimental treatment consisted of exposure to a program of classroom management training.

Figure 3 Description of teachers and classrooms selected for sub-sample by level of management effectiveness and level of student achievement (instructional effectiveness).

Table 2

Student scores on pre- and post achievement tests by achievement level group, Teacher A, ninth grade English.

	High Group (71-100)		Mid-group (31-70)		Low Group (1-30)	
	Student	Score	Student	Score	Student	Score
Pre-test						
SATBS[a]						
(Range: 1 - 98)						
	01	98	03	63	11	20
	02	78	04	51	12	20
			05	45	13	16
			06	43	14	16
			07	43	15	14
			08	42	16	06
			09	42	17	03
			10	34	18	02
					19	01
	n = 2		n = 8		n = 9	
Posttest						
SRA[b]						
(Range: 5 - 95)						
	01(+0)[c]	95	13(+1)	68	16(+0)	14
	08(+1)	91	04(+0)	68	17(+0)	09
	03(+1)	86	06(+0)	68	18(+0)	05
	02(+0)	77	05(+0)	68		
	10(+1)	77	07(+0)	68		
			19(+1)	55		
			09(+0)	55		
			14(+1)	50		
			12(+1)	45		
			15(+1)	41		
			11(+1)	36		
	n = 5		n =11		n = 3	

67 % of low group moved to mid-group.
37.5% of mid-group moved to high group.
0 % drop from high group.

N = 19

[a] SATBS: State Assessment Test of Basic Skills.

[b] SRA: Science Research Associates

[c] (+0): no group movement; (+1) movement up one group level.

Table 3

Student scores on pre- and post achievement tests by achievement level group, Teacher B, eighth grade English.

	High Group (71-100)		Mid-group (31-70)		Low Group (1-30)	
	Student	Score	Student	Score	Student	Score
Pre-test						
CRT[a] (Range: 0 - 83)						
	01	83	03	61	11	26
	02	74	04	61	12	22
			05	61	13	22
			06	52	14	22
			07	52	15	17
			08	51	16	13
			09	39	17	04
			10	35	18	00
	n = 2		n = 8		n = 8	
Posttest						
CRT (Range: 4 - 91)						
	01(+0)[b]	91	08(+0)	70	13(+0)	26
	03(+1)	83	05(+0)	70	16(+0)	26
	02(+0)	83	07(+0)	61	17(+0)	13
	04(+1)	74	06(+0)	57	18(+0)	04
			10(+0)	44		
			09(+0)	44		
			12(+1)	35		
			14(+1)	35		
			11(+1)	35		
	n = 4		n = 9		n = 4	

37.5% of low group moved to mid-group.
25 % of mid-group moved to high group.
0 % drop from high group.

N = 18

[a] CRT: Criterion-referenced test, language arts.

[b] (+0): no group movement; (+1): movement up one group.

Table 4

Student scores on pre- and post achievement tests by achievement level group, Teacher C, seventh grade English.

	High Group (71-100)		Mid-group (31-70)		Low Group (1-30)	
	Student	Score	Student	Score	Student	Score
Pre-test						
CRT[a]						
(Range: 4 - 74)						
	01	74	02	70	14	30
			03	70	15	26
			04	65	16	22
			05	65	17	17
			06	65	18	13
			07	65	19	13
			08	65	20	09
			09	65	21	04
			10	57		
			11	52		
			12	52		
			13	52		
	n = 1		n = 12		n = 8	
Posttest						
CRT						
(Range: 4 - 78)						
	01(+0)	78	08(+0)	70	15(+0)	30
			06(+0)	65	14(+0)	26
			03(+0)	65	16(+0)	22
			05(+0)	61	17(+0)	22
			02(+0)	61	19(+0)	17
			07(+0)	61	18(+0)	13
			09(+0)	61	20(+0)	04
			11(+0)	57	21(+0)	04
			10(+0)	52		
			12(+0)	52		
			04(+0)	39		
			13(+0)	39		
	n = 1		n = 12		n = 8	

No movement between groups.

N = 21

[a] CRT: Criterion-referenced test, language arts.

Table 5

Student scores on pre- and posttest achievement tests by achievement level group, Teacher D, 8th grade English.

	High Group (71-100)		Mid Group (31-70)		Low Group (1-30)	
	Student	Score	Student	Score	Student	Score
Pre-test						
CRT[a]						
(Range: 12-92)						
	01	92	09	64	20	28
	02	92	10	60	21	24
	03	84	11	56	22	24
	04	84	12	56	23	16
	05	80	13	48	24	16
	06	80	14	48	25	16
	07	80	15	48	26	12
	08	72	16	44		
			17	44		
			18	36		
			19	36		
	n = 8		n = 11		n = 7	
Posttest						
CRT						
(Range: 12-96)						
	01 (+0)	96	08 (+0)	68	20 (+0)	28
	02 (+0)	92	09 (+0)	64	21 (+0)	24
	03 (+0)	84	10 (+0)	60	22 (+0)	20
	04 (+0)	80	11 (+0)	56	23 (+0)	20
	05 (+0)	80	12 (+0)	56	24 (+0)	12
	06 (+0)	80	13 (+0)	44	25 (+0)	12
	07 (+0)	76	14 (+0)	44	26 (+0)	8
			15 (+0)	40		
			16 (+0)	44		
			17 (+0)	40		
			18 (+0)	40		
			19 (+0)	36		
	n = 7		n = 12		n = 7	

0 % of low group moved to mid group.
0 % of mid group moved to high group.
1 student dropped from high to mid group.

3 students gained in score.
12 students showed no gain.
11 students lost points.

N = 26

[a]CRT: Criterion-referenced test, language arts.

Table 6

Teachers ranked according to student mean regression residuals on pre- and post- criterion-referenced test (CRT) in language arts.

Teacher	Rank	Mean Residual
7th and 8th grade classes		
Teacher E	1	8.80
*Teacher B	2	8.49
Teacher F	3	2.28
*Teacher D	4	-2.86
*Teacher C	5	-4.39
Teacher G	6	-5.10
		F = 8.35*, df 5,112

*$p < .0001$.

NOTE: Because Teacher A's class was administered different pre and post tests a direct comparison of achievement gain with the above group was not possible. An alternative method was used to assess Teacher A's effectiveness.

Figure 6

Description of Categories and Representational Conventions Used in Mapping Instructional Conversations from Audio Recordings.

Transcript Line

Designation of discrete message units by number in sequential order from beginning to end.

Message Unit

Discrete, elemental segments of talk designated through observation of co-verbal/prosodic cues.

Representational conventions:

(a) Individual message units are arrayed in separate lines associated with a single transcript line number.
(b) TEACHER TALK IS REPRESENTED IN UPPER CASE LETTERS.
(c) student talk is represented in lower case letters, indented from the left margin, and is preceded by "s"; "sx", or "sS" where possible, where "x" indicates the first letter of the student's name, and "sS" indicates a multiple or group response.
(d) inaudible talk is indicated by /?/.
(e) punctuation is not used.

Interaction Unit (IU)

A discrete sequence of tied or cohesive message units determined post hoc on the basis of prosodic cues and conversational and social demands made and responded to by participants.

Representational conventions:

Boundaries between interaction units are marked by a single horizontal line spanning the column. Single vertical arrows are used to connect sequentially ordered ("tied") interaction units. IUs are lettered consecutively from a - z within each instructional sequence unit.

- continues)

Figure 6 (continued)

Instructional Sequence Unit (ISU)

Segments of tied interactoin units designated post hoc on the basis of thematic cohesion.

Representational conventions:

Boundaries between instructional sequence units are marked by a double horizontal line spanning the column. Double-barred vertical arrows are used to connect sequentially ordered ("tied") instructional sequence units. ISUs are number consecutively from 1-n within each lesson phase.

Potential Divergence (PD)

Student talk, events, or actions, or external events that interrupt or potentially interrupt the rhythm and flow of the teacher's apparent instructional goal or a particular instructional theme.

Representational conventions:

Interaction units within divergences are marked by a single horizontal line spanning the column. A double horizontal line (solid and broken) is used to span both the instructional sequence column and the potential divergence column at boundaries of potential divergence. PDs are numbered consecutively according to ISU number and decimal place (e.g. 3.1, 3.2, 3.3, etc.)

Theme

A main topic or topical thread characterizing instructional sequence units and lesson phases. Sub-themes and broader themes are designated in hierarchical form.

Representational conventions:

Topical themes are indicated within brackets that vertically span the length of the instructional sequence unit, or portion thereof.

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continues)

Figure 6

(continued)

Lesson Phase

A series of tied instructional sequence units designated post hoc on the basis of participation demands.

Representational conventions:

Boundaries between lesson phases are marked by a horizontal double line spanning the width of the map. Phases are numbered consecutively, using Roman numerals.

Figure 4

Constructs Contributing to a View of Teaching as a Linguistic Process[1]

Classrooms are communicative environments.

Differentiation of roles exists between teachers and students; relationships are asymmetrical.

Differential perceptions of events exist between teachers and students.

Classrooms are differentiated communication environments.

Lessons are differentiated communication environments.

Communicative participation affects student achievement.

Teachers orchestrate different levels of participation.

Class.

Group.

Individual.

Teachers evaluate student ability from observing performance during interactions.

Demands for participation co-occur with academic demands.

Teachers signal their theories of pedagogy from their behaviors.

Teacher's goals can be inferred from behaviors.

Students are active participants in learning environments.

Students acquire understandings of demands for participation by participating and by observing the participation of others.

Students signal agreement to participate.

Peer groups may mediate the individual's participation.

Student verbal and nonverbal participation influences the teacher's and other students' evaluations of student performance and ability.

Mis-match between student and teacher interaction styles can lead to frame clashes and inaccurate assessment of student performance, learning, and growth.

(continues)

Figure 4

(continued)

Learning materials introduce an overt structure of their own.

Face-to-face interaction is a rule-governed phenomenon.

- Rules or norms for behavior are constructed as part of academic and social interactions in classrooms.
- Rules of conversational participation are learned through interaction.
- Rules of conversational participation are culturally determined.

Contexts are constructed through interaction.

- Activities have participation structures.
- Contextualization cues signal meanings.
- Rules for participation are implicit.
- Behavior expectations are constructed as part of interaction.

Meaning is context specific.

- All instances of behavior are not equal.
- Meaning is signalled verbally and nonverbally.
- Contexts constrain meaning.
- Meaning is determined by and extracted from observed sequences of behavior.
- Communicative competence is reflected in appropriate behavior.

Inferencing is required for conversational participation.

- Frames of reference guide participation of individuals.
- Frame clashes result from differences in perception.
- Communication is rule-governed activity.
- Frames of reference are developed over time.
- Form and function in speech used in conversations do not always match.

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[1] See Green (1977) for fuller elaboration.

Figure 5

Analytic Steps Used in Mapping Instructional Conversations from Audio Recording.

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1. Typescript is prepared from audio transcription.

2. Message Units. Typescript is segmented into discrete messages on the basis of co-verbal, prosodic cues.

3. Potential Divergences. Student talk, actions, or events, or external events that interruppt or potentially interrupt the teacher's apparent instructional theme are designated.

4. Interaction Units. Sequences of tied or cohesive message units are designated post hoc on the basis of prosodic cues and the social and conversational demands made and/or responded to by teacher and students.

5. Instructional Sequence Units. Segments of tied interaction units are designated post hoc on the basis of thematic cohesion.

6. Contextualization Cues. Explanations or potential interpretations are noted where evident or where needed for clarity.

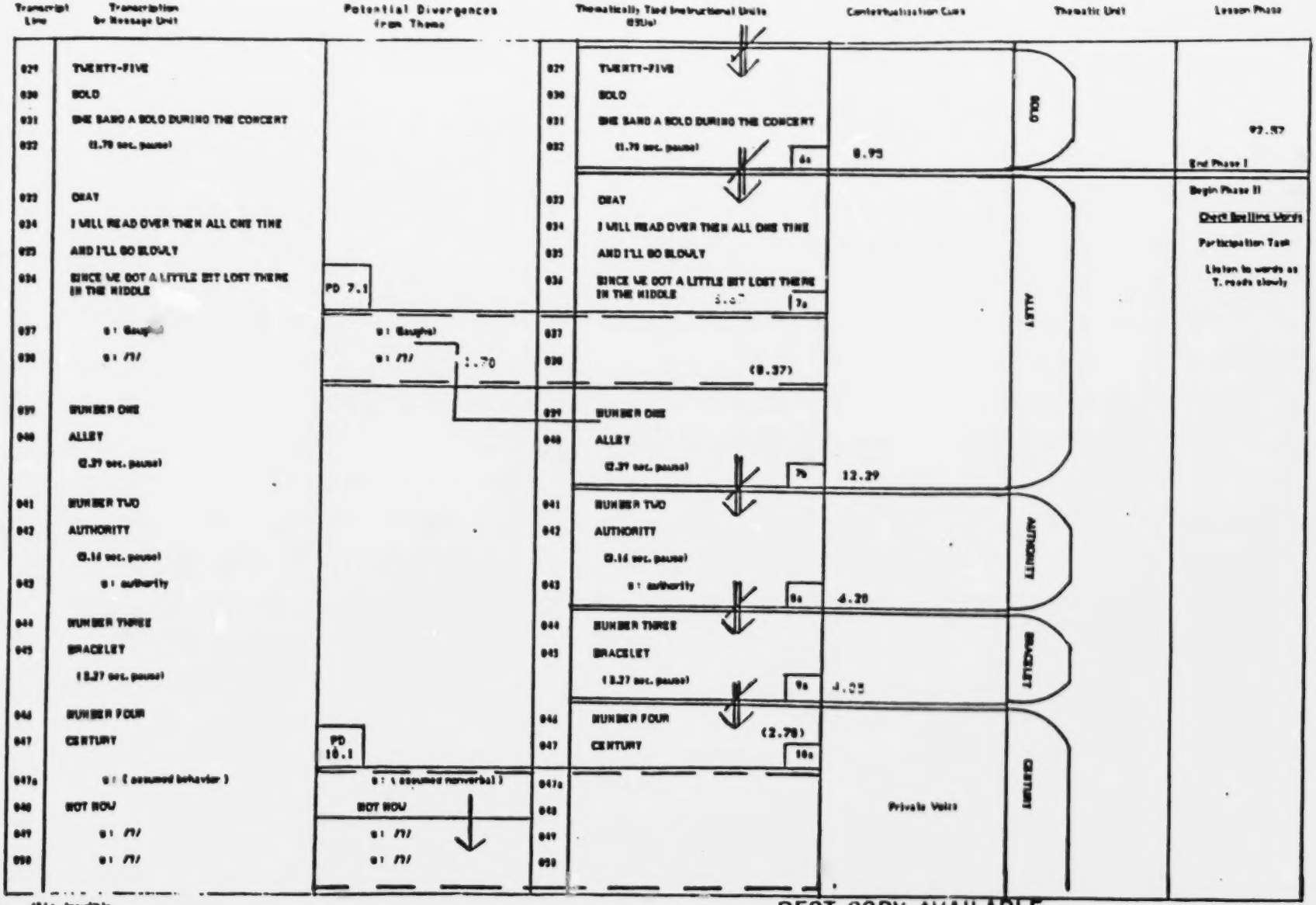
7. Themes. Topical theme is designated post hoc as a means of characterizing hierarchical thematic units.

8. Lesson Phase. The day's lesson is segmented, post hoc, into discrete phases based on changes in the academic and/or social participation demands placed on students.

9. Bases of Inference. Cues used in making decisions about designation of units and themes are recorded where necessary throughout the mapping process.

10. Questions and Issues for Triangulation. The need for additional information is noted where necessary when clarity might be gained through teacher interview or examination of instructional materials.

Figure 7 Sample segment: Map of instructional conversation.



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